

b.) Amendments to the Claims:

The following is a list of all claims that are pending in the application as of this office action, presented irrespective of whether the claim(s) remains under examination in the application. Claims 21 and 25 have been canceled. Claims 20, 22-24, 26-28, and 35 have been amended. Status identifiers precede each claim.

1. (Canceled).

2. (Canceled).

3. (Canceled).

4. (Canceled).

5. (Canceled).

6. (Canceled).

7. (Canceled).

8. (Canceled).

9. (Canceled).

10. (Canceled).

11. (Canceled).

12. (Canceled).

13. (Canceled).

14. (Canceled).

15. (Canceled).

16. (Canceled).

17. (Canceled).

18. (Canceled).

19. (Canceled).

20. (Currently Amended) Process for oxidising a chlorinated ~~hale~~ aromatic substrate that ~~which~~ has more than one chlorine halogen atom, which process comprises oxidising said substrate with a mutant P450 monooxygenase enzyme, in the presence of an electron transfer redoxin, wherein the enzyme is: a ring carbon of the substrate is oxidised.

(a) a P450_{cam} enzyme comprising a mutation at one or more of the following amino acid positions: 87, 96, 98, 101, 185, 244, 247, 248, 296, 395 or 396, or

(b) a P450 monooxygenase comprising one or more mutations at amino acid positions which are equivalent to amino acid positions 87, 96, 98, 101, 185, 244, 247, 248, 296, 395 or 396 of P450_{cam} enzyme.

wherein said mutation(s) in (a) or (b) are a substitution of an amino acid with an amino acid that has a less polar side chain, and

wherein a ring carbon of the substrate is oxidized in the oxidation reaction.

21. (Canceled).

22. (Currently Amended) Process according to claim 2 20 in which the enzyme comprises ~~one or more other~~ more than one amino acid substitutions ~~in the active site as~~ defined in claim 20.

23. (Currently Amended) Process according to claim + 20 in which the enzyme is:

P450_{cam}.

(i) ~~P450_{cam}~~ or

(ii) ~~a naturally occurring homologue of (i), or~~

(iii) ~~a mutant of (i) or (ii).~~

24. (Currently Amended) Process according to claim + 20 in which the enzyme

comprises a mutation at is one in which amino acid 96 of P450_{cam} or the equivalent amino acid position in a homologue, has been changed to an amino acid with a less polar side chain.

25. (Canceled).

26. (Currently Amended) Process according to claim + 20 in which the substrate

aromatic compound is a chlorinated benzene or chlorinated biphenyl.

27. (Currently Amended) Process according to claim 20 for oxidising a halo

aromatic substrate, which process comprises oxidising said substrate with a monooxygenase
enzyme, wherein the substrate is 1, 2-dichlorobenzene, 1, 2, 4- trichlorobenzene, 3,3'-
dichlorobiphenyl, 2,2',4,5,5'-pentachlorobiphenyl, pentachlorobenzene or hexachlorobenzene.

28. (Currently Amended) Process according to claim & 27 in which the enzyme is

P450_{cam}.

(i) ~~P450_{cam}~~ or

(ii) ~~a naturally occurring homologue of (i), or~~

(iii) ~~a mutant of (i) or (ii).~~

35. (Currently Amended) Process according to claim 20 which is performed to decontaminate Method of treating a locus contaminated with a chlorinated hale aromatic substrate that has more than one chlorine atom.

comprising contacting the locus with:

(i) a monooxygenase enzyme, or

(ii) a cell that expresses:

(a) a monooxygenase enzyme;

(b) an electron transfer reductase; and

(c) an electron transfer redoxin, or

(iii) a non human transgenic animal or transgenic plant whose cells express

(a), (b) and (c).